APPENDIX E

PROJECT EASI/ED
DATA MODELING STANDARDS

PROJECT EASI/ED DATA MODELING STANDARDS

This appendix presents the Project EASI/ED Data Modeling Standards for naming subject areas, entity types, attributes, and relationships for the Logical Data Model. It provides guidelines and standards to enable ED to integrate information systems and share data across the enterprise. Guidelines are provided to assist with the creation and maintenance of data models. Standards are rules enforced by the Data Administration (DA) organization responsible for the data models.

The appendix includes the following information:

- Introduction
- General Naming Standards
- Subject Area Standards
- Entity Type Standards
- Attribute Standards
- Relationship Standards
- Diagram Standards
- Reference Documents

This appendix includes the Annexes listed below.

- Annex A: Abbreviation List - A list of shortened or contracted forms of words.

- Annex B: Acronym List - A list of words formed from the initial letters of words from a phrase.

- Annex C: Class Word Table - A table of standard class words used to classify attributes by applying a unique suffix to the attribute name.

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PROJECT EASI/ED

DATA MODELING STANDARDS

VERSION 3.3

SEPTEMBER 30, 1998

INTRODUCTION

The purpose of this document is to present the Project EASI/ED Data Modeling Standards for naming subject areas, entity types, attributes, and relationships for the Logical Data Model. This document provides guidelines and standards to enable ED to integrate information systems and share data across the enterprise. Guidelines are provided to assist with the creation and maintenance of data models. Standards are rules enforced by the Data Administration (DA) organization responsible for the data models.

1. GENERAL NAMING STANDARDS

- Names must not be longer than 32 characters.
- Names must be concise. Avoid prepositions, the possessive case, conjunctions, and articles except when absolutely essential for clarity.
- Names must reflect ED business knowledge and terminology and avoid reference to technology, implementation, or processing rules.

1.1 ABBREVIATIONS AND ACRONYMS

- Abbreviations must be listed in the Abbreviation List (Annex A). If an abbreviation appears in the list, the attribute name must be formed using the approved abbreviation, otherwise an abbreviation may not be used. Abbreviations should not be used for entity type names, relationship names, and subject area names unless they exceed 32 characters.
- An acronym may be used only if its meaning is clear to ED employees or if the fully spelled out attribute name exceeds 32 characters (Refer to Annex B - Acronym List).

1.2 DESCRIPTION STANDARDS

- The definition is always the first "field" to appear in a narrative description.
- All NOTES included in a description must be dated and clearly identify the source (e.g. *workshop XYZ* or ED analyst *Joe Jones*.)
- When more than one field is included in the description (e.g., DEFINITION, EXAMPLE, NOTES) each field must be labeled.
- The format and order of a description is as follows:
    - DEFINITION: (required)
    - EXAMPLE: (optional)
    - OWNER: (optional for Entity Type, optional for Attribute)
    - SOURCE: (optional for Attribute)
    - NOTES: (optional)
    - SYNTAX LEVEL EDITS: (optional for Attribute)
    - SECURITY: (optional for Attribute)

1.3 DEFINITION STANDARDS

- Abbreviations must not be used in definitions.
- Acronyms used are spelled out on first use.
- If the name of any object is referenced in a definition, the name must be capitalized.

- The definition must be in sentence form. One or more sentences may be used as required to complete the definition.

- For an entity type, the definition must describe a singular occurrence of the entity type rather than the plural.
  For example, A CUSTOMER is
  Proper: *an* individual *or* organization ...
  Improper: *individuals* or organizations

- The definition should be stable over time. For example, if the entity type definition contains the following words or phrases, this may be an indication of time dependency or process orientation:
  - perhaps
  - unless this happens
  - in this situation
  - however
  - occasionally
  - frequently
  - depends
  - sometimes

2. SUBJECT AREA STANDARDS

A subject area is an area of interest for the enterprise centered on a major resource, product, or activity.

2.1 SUBJECT AREA PROPERTIES

A subject area has the following properties:

Subject Area Properties	Optional / Required
Subject area name	Required
Subject area description	Optional

Examples of subject areas:

- PARTICIPANTS
- SCHOOLS
- AID_ORGANIZATIONS

2.1.1 Subject Area Name

For EASI/ED purposes, exactly one kernel entity type and all of its dependent entity types are contained in the subject area. The name is formed by using the plural version of the kernel entity type name. As many as 32 characters is appropriate for a name. Standards addressed in Section 2 - General Naming Standards apply to this section.

2.1.2 Subject Area Description

The description should describe the subject area. Standards addressed in Subsection 1.2 - Description Standards applies to this subsection.

2.2 SUBJECT AREA CONVENTIONS

- Each subject area should contain one kernel entity type and its associatives, characteristics, and super/subtypes.

- Each entity type within a subject area should be related to other entity types in the same subject area.

3. ENTITY TYPE STANDARDS

An entity is a fundamental thing of relevance to the enterprise about which data should be kept. An entity type is the collection of entities that share a common definition, as well as common characteristics and relationships. An entity type may be a person (e.g., EMPLOYEE, CLIENT), place (e.g., COUNTY, DISTRICT), thing (e.g., EQUIPMENT, BRIDGE), concept (e.g., FINANCIAL_ACCOUNT, ORGANIZATION), or event (e.g., FINANCIAL_TRANSACTION, TASK).

Entity types are classified as independent or dependent. The independent entities can be identified independently of any other entity types. These are known as **kernels**. The dependent entity types must rely on one or more other entity types to exist. These dependent entity types are either characteristic or associative. The **characteristic** entity type further describes another entity type, for example EMPLOYEE_ADDRESS is a characteristic entity type further describing the EMPLOYEE entity type. An **associative** entity type depends on two or more other entity types such as an EMPLOYEE_ASSIGNMENT, where it's identifier is made up of the EMPLOYEE identifier and the ASSIGNMENT identifier. Each entity type is defined in terms of its attributes, properties, and relationships.

Additional entity types include subtype and supertype. A **subtype** (category) entity type is one that exists in a generalization hierarchy of entities. In a subtype hierarchy, a generalized entity type called the **supertype** (generic) entity type is categorized into mutually exclusive subtypes. For example, the supertype entity COMMUNICATION can be divided into the subtypes COMPLETE_COMMUNICATION and INCOMPLETE_COMMUNICATION. Note that a subtype connection is not a relationship, e.g., an occurrence of the COMMUNICATION entity is also an occurrence of one of the subtypes.

3.1 ENTITY TYPE PROPERTIES

An entity type has the following properties:

Entity Type Properties	Optional / Required
Entity type name	Required
Subject area name	Required
Unique Identifier	Required
Aliases	Optional
Minimum occurrences	Optional
Average occurrences	Optional
Maximum occurrences	Optional
Growth rate	Optional
Entity Description: Definition	Required
Entity Description: Example	Optional
Entity Description: Notes	Optional

3.1.1 Entity Type Name

- The name of the entity type classifies the entities it describes. The name must be a singular noun or a noun phrase and be unique within the business. These should be common nouns, not proper nouns. It can contain as many as 32 characters. These characters must be upper case, and not include any special characters. Entity type names should not be abbreviated unless maximum name length is exceeded.

  Examples:
  Improper: EMPLOYEES (plural)
  Proper: EMPLOYEE (singular)

  Improper: FORD, HONDA, VOLVO (proper nouns)

Proper: MOTOR_VEHICLE (common noun)

- Do not use articles (a, an, the) or possessives when naming entity types.
- Avoid using prepositions. When possible reword the name so the preposition is unnecessary.

  Example:

  Improper: METHOD_OF_EVALUATION
  Proper: EVALUATION_METHOD

- However, the preposition should be retained for clarity if necessary.

  Example:
  THIRD_PARTY_PAYMENT could be confused as to whether it is
  PAYMENT_FROM_THIRD_PARTY
  PAYMENT_TO_THIRD_PARTY

- Similarly, entity type names should be worded so that conjunctions (and, or, but) are not necessary.

  Examples:
  Improper: EMPLOYEE_LOCATION_OR_ASSIGNMENT

  Proper: EMPLOYEE_LOCATION
  EMPLOYEE_ASSIGNMENT

  The need for a conjunction in an entity type name may indicate faulty data modeling. In the above example, perhaps two entities are needed: one for location and one for assignment.

3.1.2 Subject Area Name

The subject area name is the label of the subject area in which the entity type is contained.

3.1.3 Unique Identifier

Identifiers distinguish one occurrence of an entity type from all other occurrences of that entity type. All identifiers must consist of one or more attributes which conform to the attribute naming standards. In the case of a single attribute which uniquely identifies a kernel entity type, the attribute must use the *identifier* class word, abbreviated ID. It is common to encounter kernel entity type using the abbreviated entity types name and the ID class word suffix. When relationship memberships and attributes are used together as an identifier, the membership pairing and attribute value combine to provide uniqueness.

Identifier Name Conventions:

- An optional relationship membership may not participate in an identifier.
- A transferable relationship membership may not participate in an identifier.
- A relationship membership that is involved in a mutually exclusive set may not participate in an identifier.
- The initial value of an attribute that participates in an identifier may not be changed.
- An optional attribute may not participate in an identifier.
- A derived attribute may not participate in an identifier.

3.1.4 Aliases

Specifying aliases for an entity type is necessary when the entity type is known by different names. Standards addressed in Section 1 - General Naming Standards applies to this section.

3.1.5 Minimum Occurrences

This represents the expected minimum number of occurrences for an entity type.

3.1.6 Average Occurrences

This represents the expected average number of occurrences for an entity type.

3.1.7 Maximum Occurrences

This represents the expected maximum number of occurrences for an entity type.

3.1.8 Growth Rate

The growth rate for an entity type is the anticipated increase (or decrease) in the number of entity occurrences over time. The value is expressed as a percentage per day, week, month, or year.

3.1.9 Entity Description: Definition

This is a narrative description of the entity type. Standards indicated in Subsection 1.2 - Description Standards apply to this subsection.

3.1.10 Entity Description: Example

An entity example may be included in the Entity Description field when it helps clarify the meaning of the entity type. Standards indicated in Subsection 1.2 - Description Standards apply to this subsection.

3.1.11 Entity Description: Notes

The Notes field may be used to add additional entity type information that is not appropriate for any other field. Standards indicated in Subsection 1.2 - Description Standards apply to this subsection.

3.2 ENTITY TYPE CONVENTIONS

- Each entity described by an entity type must be uniquely identifiable.
- An entity type should participate in at least one relationship.
- An entity type is immediately associated with one, and only one, subject area.

4. ATTRIBUTE STANDARDS

An attribute is a characteristic of an entity type.

4.1 ATTRIBUTE PROPERTIES

An attribute has the following properties:

Attribute Properties	Optional / Required
Attribute name	Required
Entity type name	Required
Aliases	Optional
Format	Required
Length	Required
Decimal places	Optional
Domain	Optional
Optionality	Required
Category	Required

Updateable	Required
Attribute Description: Definition	Required
Attribute Description: Example	Optional
Attribute Description: Owner	Optional
Attribute Description: Source	Optional
Attribute Description: Notes	Optional
Attribute Description: Access rights and security requirements	Optional

4.1.1 Attribute Name

An attribute name is a noun or noun phrase describing the purpose or content of the attribute and reflects the terminology used in the business. An attribute name must consist of zero or more modifier words; and must end in one and only one class word. (Refer to Annex C - Class Word Table.) Use upper case alphanumeric characters and underscores to separate words.

Example: The following are valid names for attributes of EMPLOYEE:

- BIRTH_DATE
- FIRST_NAME
- LAST_NAME

Birth, *first*, and *last* are used as modifier words. *Date* and *name* are the class words.

An attribute must describe one concept and have singularity of purpose or use. Do not include the name of the entity type or subtype when naming the attribute. That creates redundant names, such as CUSTOMER_CUSTOMER_NUMBER. An attribute name can contain up to 32 alphanumeric characters. It cannot contain special characters.

4.1.1.1 Class Words

A class word is a noun within an attribute name that defines the generic grouping of data to which an attribute belongs. Class words are the last component of an attribute name. Class words are reserved words and **must not** be used anywhere else in the attribute name. A class word is a modeling technique used to lend clarity to attribute names. A class word is a means of categorizing data: (Is it time, date, monetary amount, or coded information). Refer to Annex C for a list of class words.

Class words must be distinguishable from one another. If class words are ambiguous, then they must be reconciled.

Class word lists should be kept small (Remember a class word is not valid as a modifier.) The class word is not the definition - it is a means of categorizing.

Example:
The entity type EMPLOYEE requires an attribute to record an employee's "social security number". It is named using approved abbreviations as SOCIAL_SECURITY_NMBR. If social security number is not the primary key of the EMPLOYEE entity type, the attribute should be named social security number. If it is the primary key (of the kernel entity type), then it should be named SOCIAL_SECURITY_ID. If the primary key is a simple (not concatenated) assigned identifier, then it should be named EMPL_ID.

4.1.1.2 Attribute Name Structure

The structure of a fully qualified attribute name is the [ENTITY TYPE NAME].[prime + modifiers + class word]. It is not necessary to use the ENTITY TYPE NAME in the attribute name field unless a

duplicate attribute name exists and it participates in the unique identifier. If the entity type name is composed of word(s) which are in the abbreviation list, the abbreviation must be used in the attribute name.

PRIME + (0-n) modifiers + (1) class word

4.1.2 Entity Type Name

Entity type name is the label of the entity type to which the attribute belongs.

4.1.3 Aliases

Aliases are specified for an attribute when an attribute is known by different names. Standards addressed in Section 1 - General Naming Standards applies to this section.

4.1.4 Format

Format refers to the type of data contained in an attribute. Valid data types are Numeric, Text, Date, and Time.

4.1.5 Length

Length is the maximum number of characters or digits allowed for each value of an attribute. In Composer, the maximum supported length varies according to the domain.

- The maximum supported length of text attributes is 4000.
- Date attributes have 8 characters, including 4 digits for the year (YYYYMMDD).
- Time attributes have 6 characters (HHMMSS).
- You cannot change the number of characters for date, or time.

Examples of attribute length are as follows:

- The number 1000 is 4 digits long.
- The number 3.14159 is 6 digits long. (Count each whole number and each decimal place. This number is six digits long and has five decimal places.)
- The date January 1, 1992 becomes 19920101.
- The time 8:30 a.m. becomes 083000.

4.1.6 Decimal Places

The property decimal place is only applicable to attributes belonging to the Number domain. Decimal place reflects the number of digits of the attribute's total length which fall to the right of the decimal point.

4.1.7 Domain

Domain refers to the allowable values for an attribute. This field is required for attributes that end with category or code class words.

4.1.8 Optionality

Optionality identifies whether an attribute is mandatory or optional.

4.1.9 Category

Category classifies an attribute as Basic, Designed, or Derived. The value of a Basic attribute must be collected. It cannot be deduced or calculated. The value of a Designed attribute is calculated once through an action block in an action diagram; then, it becomes a fixed value. The value of a Derived attribute is dynamic, one that changes constantly. The value is not stored in the database as a column in a table; it must be calculated each time it is accessed.

4.1.10 Updateable

Updateable identifies whether an instance of an attribute is permitted to be updated once it is created.

4.1.11 Attribute Description: Definition

This is a narrative description of an attribute. Standards indicated in Subsection 1.2 - Description Standards apply to this subsection.

4.1.12 Attribute Description: Example

An attribute example may be included in the Attribute Description field when it helps clarify the meaning of the attribute. Standards indicated in Subsection 1.2 - Description Standards apply to this subsection.

4.1.13 Attribute Description: Owner

TBD.

4.1.14 Attribute Description: Source

Source specifies the origin of the data or information gathered for an attribute.

4.1.15 Access Rights and Security Requirements

The following four classifications are valid for attributes:

- **Private:** Data attribute requires security to protect the privacy of individual participants.
- **Proprietary:** Data attribute requires security to protect business sensitive data.
- **Private & Proprietary:** Data attribute requires security in order to protect the privacy of individual participant information and protect business sensitive data.
- **Blank:** No special security requirements were identified at this time and the field has been left blank.

Standards indicated in Subsection 1.2 - Description Standards apply to this subsection.

4.2 ATTRIBUTE CONVENTIONS

- An attribute describes exactly one entity type.
- An attribute must have, at most, one value for any entity of the entity type it describes.
- An attribute must not have attributes of its own.
- An optional attribute may not participate in an identifier.
- The initial value of an attribute that participates in an identifier may not be changed.
- A derived attribute may not participate in an identifier.

5. RELATIONSHIP STANDARDS

A relationship is a reason of relevance to the business for associating entities.

5.1 RELATIONSHIP PROPERTIES

A relationship has the following properties:

Relationship Properties	Optional / Required
Relationship membership names	Required
Source entity type name	Required
Source optionality	Required
Source cardinality	Required
Destination entity type name	Required
Destination optionality	Required
Destination cardinality	Required
Minimum occurrences	Optional
Average occurrences	Optional
Maximum occurrences	Optional
Relationship description	Optional
Transferability	Required

5.1.1 Relationship Membership Names

The relationship membership's name connects one entity type to another in a subject-verb-object arrangement. Regardless of cardinality, including many-to-one and many-to-many, the membership name is singular. The verb used is active or passive and a complete phrase.

In addition to making the model more intelligible, proper membership names confirm the analyst's understanding of the business. Clear and concise names often reveal inconsistencies or redundancies in a model. For this reason, avoid overly simple and ambiguous names, such as uses, or has. General naming standards addressed in Section 2 apply to this section.

5.1.2 Source Entity Type Name

Source entity type name specifies the properties of the source relationship membership. Entity type naming standards addressed in Subsection 4.1.1 apply to this subsection.

5.1.3 Source Optionality

Source optionality indicates whether entities joined by a relationship must participate in pairings. Source optionality is specified as "Always" or "Sometimes" for the relationship membership. "Always" indicates that a membership is mandatory; that is, each source entity must participate in a pairing under the relationship. An optionality of "Sometimes" indicates that a pairing is optional, that a source entity of the type may exist without participating in a pairing under the relationship.

5.1.4 Source Cardinality

Source cardinality is the ratio of source instances to destination instances. Each relationship membership has one of three cardinalities:

- one-to-one (1:1)
- one-or more (1:M)
- many-to-many (N:M)

5.1.5 Destination Entity Type Name

Destination entity type name specifies the properties of the destination relationship membership. Entity type naming standards addressed in Subsection 4.1.1 apply to this subsection.

5.1.6 Destination Optionality

Destination optionality indicates whether destination entities joined by a relationship must participate in pairings. Destination optionality is specified as "Always" or "Sometimes" for the relationship membership. "Always" indicates that a membership is mandatory; that is, each destination entity must participate in a pairing under the relationship. An optionality of "Sometimes" indicates that a pairing is optional, that a destination entity of the type may exist without participating in a pairing under the relationship.

5.1.7 Destination Cardinality

Destination cardinality is the property of a relationship membership that determines the number of destination entities on one side of the relationship that may be joined to a single source entity on the other side. Each relationship membership has one of three cardinalities as described in Subsection 6.1.4.

5.1.8 Minimum Occurrences

The minimum occurrences for a relationship represent the minimum number of occurrences for this relationship that the business expects.

5.1.9 Average Occurrences

The average occurrences for a relationship represent the average number of occurrences for this relationship that the business expects.

5.1.10 Maximum Occurrences

The maximum occurrences for a relationship represent the maximum number of occurrences for this relationship that the business expects.

5.1.11 Relationship Description

A narrative description of the relationship. Description standards indicated in Subsection 1.2 apply to this subsection.

5.1.12 Transferability

Transferability is the property of a membership that indicates whether an entity in a relationship pairing can be replaced by another occurrence of an entity with the same entity type. This is generally not allowed when a relationship participates in a primary key.

5.2 RELATIONSHIP CONVENTIONS

- Each relationship associates one or two entity types.
- An optional relationship membership may not participate in an identifier.
- A relationship membership with a cardinality of "many" may not participate in an identifier.
- A relationship membership that is involved in an mutually exclusive set may not participate in an identifier.

6. DIAGRAM STANDARDS

Model diagrams are presented by subject area. Each diagram describes one main subject area and its neighborhood. A neighborhood includes entity types from other subject areas which have direct relationships with entity types in the main subject area.

7. REFERENCE DOCUMENTS

The following table contains documents which are relevant to the data modeling standards:

REFERENCE DOCUMENT LIST	
DOCUMENT	**DESCRIPTION**
Abbreviation List	A list of shortened or contracted forms of words.
Acronym List	A list of words formed from the initial letters of words from a phrase.
Class Word Table	A table of standard class words used to classify attributes by applying a unique suffix to the attribute name.

ANNEX - A

ABBREVIATION LIST				
ROOT WORD	**ABBREVIATION**	**NOTE**	**DATE ADDED**	**DATE APPROVED**
ACADEMIC	ACAD	Webster's 9th New Collegiate Dic.	10/28/97	10/31/97
ACCOUNT	ACCT		1/12/97	1/13/97
ADDRESS	ADDR		10/28/97	10/31/97
ADJUSTMENT	ADJ		9/11/97	9/11/97
ADMINISTRATIVE	ADMIN		6/11/97	6/11/97
ALLOCATION/ ALLOCATE	ALLOC		6/11/97	6/11/97
ALLOTMENT	ALLOTMENT		10/28/97	10/31/97
ALTERNATE	ALT		3/11/98	3/11/98
AMOUNT	AMT	*Class Word*	4/14/97	5/6/97
APPLICATION	APPL		8/18/97	8/14/97
APPROVE/ APPROVED/ APPROVAL	APRV		10/28/97	10/31/97
ASSOCIATION	ASSN		2/4/98	2/4/98
ATTENDANCE	ATTENDANCE		10/28/97	10/31/97
AUTHORIZE/ AUTHORIZED/ AUTHORIZATION	AUTH		1/12/97	1/12/97
AVAILABLE	AVAIL		2/10/98	2/6/98
AWARDED	AWARDED		10/28/97	10/31/97
BALANCE	BAL	Webster's 9th New Collegiate Dic.	10/28/97	10/31/97
BOOKED	BOOKED		10/28/97	10/31/97
CALCULATE/ CALCULATION	CALC		6/11/97	6/11/97
CATEGORY	CAT	*Class Word*	10/28/97	10/31/97
CERTIFICATION/ CERTIFIED	CERT		5/6/97	5/6/97
CITIZENSHIP	CITIZENSHIP		10/28/97	10/31/97
COMPLETE/ COMPLETION	COMPL		1/12/97	1/12/97
CONDITION	COND	Webster's 9th New Collegiate Dic.	10/28/97	10/31/97
CONFIRMATION	CONFIRM		1/5/98	12/19/97
CONGRESSIONAL	CONG	Webster's 9th New Collegiate Dic.	10/28/97	10/31/97
CONSOLIDATED/ CONSOLIDATION	CONS		4/14/97	5/6/97
CONTRIBUTION	CONTRIB	Webster's 9th New Collegiate Dic.	10/28/97	10/31/97
COUNT	CNT	*Class Word*	10/28/97	10/31/97
COUNTRY	CNTRY		10/28/97	10/31/97
CREDIT	CR		1/12/97	1/12/97
CRITERIA	CRITERIA		10/28/97	10/31/97
DEBIT	DR		1/12/97	1/12/97
DEFAULT	DEFLT		5/6/97	5/6/97
DESCRIPTION	DESC	*Class Word*	10/28/97	10/31/97

ABBREVIATION LIST				
ROOT WORD	**ABBREVIATION**	**NOTE**	**DATE ADDED**	**DATE APPROVED**
DESTINATION	DEST		1/12/97	1/12/97
DILIGENCE	DILIG		2/19/98	2/18/98
DIMENSION	DIM	*Class Word*	10/28/97	10/31/97
DISBURSEMENT	DISB		6/11/97	6/11/97
DISTRICT	DISTRICT		10/28/97	10/31/97
DOCUMENT	DOC		8/13/97	8/8/97
DRIVERS	DRIVERS		10/28/97	10/31/97
EDUCATION/ EDUCATIONAL	EDU		3/6/98	3/6/98
EFFECTIVE	EFF		9/5/97	9/5/97
ELIGIBILITY	ELIG		4/14/97	5/6/97
EMPLOYEE	EMPL		1/12/97	1/12/97
EMPLOYER	EMPLOYER		1/12/98	1/12/98
ENROLL/ ENROLLMENT	ENRL		10/28/97	10/31/97
ESTABLISHED	ESTAB		10/28/97	10/31/97
ETHNICITY	ETHNICITY		10/28/97	10/31/97
EXPECTED	EXPECTED		10/28/97	10/31/97
EXPIRATION	EXPIRE		3/6/98	3/6/98
FACSIMILE/ FAX	FAX	"fax" is listed as a word in Webster's 9th New Collegiate Dic.	10/28/97	10/31/97
FAMILY	FAMILY		10/28/97	10/31/97
FEDERAL	FED		2/23/98	2/20/98
FREQ	FREQUENCY		2/4/98	2/4/98
FUNCTION	FUNC		1/12/97	1/12/97
GENDER	GENDER		10/28/97	10/31/97
HH	HOUSEHOLD		2/4/98	2/3/98
HOLDER	HLDR	Webster's 9th New Collegiate Dic.	10/28/97	10/31/97
IDENTIFIER	ID	*Class Word*	10/28/97	10/31/97
IMAGE	IMG	*Class Word*	10/28/97	10/31/97
INCOME	INCOME		10/28/97	10/31/97
INDICATOR	IND	*Class Word*	10/28/97	10/31/97
INFORMATION	INFO	*Class Word*	5/6/97	5/6/97
INITIATE	INIT		4/14/97	5/6/97
INTEREST	INTEREST		3/17/98	3/17/98
JOURNAL	JRNL		1/12/97	1/12/97
LEDGER	LDGR		1/12/97	1/12/97
LENGTH	LEN		1/12/97	1/12/97
LICENSE	LIC		10/28/97	10/31/97
MAINTENANCE	MAINT		1/12/97	1/12/97
MANAGEMENT	MGT		5/6/97	5/6/97
MATCHING	MATCHING		10/28/97	10/31/97
MAXIMUM	MAX		1/12/97	1/12/97

ABBREVIATION LIST				
ROOT WORD	**ABBREVIATION**	**NOTE**	**DATE ADDED**	**DATE APPROVED**
MIDDLE	MIDDLE		10/28/97	10/31/97
MINIMUM	MIN		1/12/97	1/12/97
MESSAGE	MSG		2/12/98	2/12/98
MULTIPLE	MULTI		8/28/98	8/28/98
NATIONAL	NATL		2/19/98	2/18/98
NONTAXABLE	NONTXBL		10/28/97	10/31/97
NOTIFICATION	NOTIF		2/4/98	2/4/98
NUMBER	NMBR	*Class Word*	10/28/97	10/31/97
OBJECT	OBJ		1/12/97	1/12/97
ORGANIZATION	ORG		1/12/97	1/12/97
ORIGINATE/ ORIGINATION	ORIGNT		10/28/97	6/11/97
OUTSTANDING	OUTSTAND		10/28/97	10/31/97
PACKAGE	PKG		8/13/97	8/8/97
PARTICIPANT	PARTICIPANT		4/14/97	10/31/97
PAYMENT	PMT		4/14/97	5/6/97
PERCENT	PCT	*Class Word*	10/28/97	10/31/97
PERFORMANCE	PERF	Webster's 9th New Collegiate Dic.	10/28/97	10/31/97
PERIOD	PERIOD		10/28/97	10/31/97
POSTAL	POSTAL		10/28/97	10/31/97
PREFERENCE	PREF		3/17/98	3/13/98
PRELIMINARY	PRELIM		3/17/98	3/13/98
PRESIDENT	PRES	Webster's 9th New Collegiate Dic.	10/28/97	10/31/97
PROGRAM	PGM		1/12/97	1/12/97
PROJECT	PROJ		1/12/97	1/12/97
PROMISSORY	PROM		4/14/97	5/6/97
QUALIFICATION	QUALIF		3/20/98	3/20/98
QUANTITY	QTY	*Class Word*	10/28/97	10/31/97
RATING	RATING		10/28/97	10/31/97
REASON	REASON		10/28/97	10/31/97
RECEIVE	RCV		6/11/97	6/11/97
RECOMMEND/ RECOMMENDATION/ RECOMMENDED	RECMD		3/2/98	2/26/98
REGISTRATION	REGISTRATION		11/13/97	11/13/97
REINSURANCE	REINS		6/11/97	6/11/97
RELATED	RELATED		10/28/97	10/31/97
REPAYMENT	REPMT		6/11/97	6/11/97
REPORT/ REPORTING	RPT		4/14/97	5/6/97
REQUEST/ REQUESTED	REQST		6/11/97	6/11/97
REQUIREMENT	RQMT		3/5/98	3/4/98
REVIEW	REVIEW		3/17/98	3/17/98

ABBREVIATION LIST				
ROOT WORD	**ABBREVIATION**	**NOTE**	**DATE ADDED**	**DATE APPROVED**
ROUTING	ROUTING		10/28/97	10/31/97
SALARY	SAL		10/28/97	10/31/97
SCHEDULE/ SCHEDULED	SCHED		4/14/97	5/6/97
SCHOOL	SCH	Webster's 9th New Collegiate Dic.	10/28/97	REJECTED
SEMESTER	SEM		10/28/97	10/31/97
SEQUENCE	SEQ		1/12/97	1/12/97
SERVICE/ SERVICER	SERV		6/26/97	6/26/97
SOURCE	SRC		10/28/97	10/31/97
SPECIAL	SPCL		6/11/97	6/11/97
STATUS	STAT		4/14/97	5/6/97
STREET	STREET		10/28/97	10/31/97
STRUCTURE	STRUCT		10/28/97	10/31/97
SUPPORT	SUPPT		4/14/97	5/6/97
TAXABLE	TXBL		10/28/97	10/31/97
TELEPHONE	PHONE		1/12/97	1/12/97
TRANSACTION	TRXN		1/12/97	1/12/97
UNDERGRADUATE	UNDERGRAD		5/7/98	5/7/98
VERSION	VER		10/28/97	10/31/97
VERIFICATION	VERIF		10/28/97	10/31/97
VENDOR	VNDR		1/12/97	1/12/97
WEIGHT	WT		1/12/97	1/12/97
YEAR	YR		3/11/98	3/11/98

ANNEX - B

ACRONYM LIST			
ACRONYM	**PHRASE**	**DATE ADDED**	**DATE APPROVED**
ACA	Administrative Cost Allowance	6/11/97	6/11/97
ACH	Automatic Clearing House	1/29/98	1/29/98
ACN	Audit Control Number	3/6/98	3/6/98
AEA	Administrative Expense Allowance	6/27/97	6/27/97
AGI	Adjusted Gross Income	12/16/97	12/16/97
AP	Accounts Payable	4/14/96	5/6/97
AR	Accounts Receivable	4/14/96	5/6/97
AWG	Administrative Wage Garnishment	1/12/98	1/12/98
BUD	Backup Data	3/17/98	3/17/98
CBS	Campus-Based Systems	1/12/97	1/13/97
CDB	Central Database	1/12/97	1/13/97
CDR	Cohort Default Rate	3/24/98	3/24/98
CPA	Certified Public Accountant	3/17/98	3/17/98
CPS	Central Processing System	1/12/97	1/13/97
CSR	Customer Service Representative	8/28/98	8/28/98
DBA	Database Administrator	1/12/97	1/13/97
DOB	Date of Birth	11/13/97	11/13/97
DOJ	Department of Justice	12/16/97	12/16/97
DOL	Department of Labor	3/17/98	3/17/98
ED	Department of Education	1/12/97	1/13/97
EFC	Expected Family Contribution	10/28/97	10/31/97
EFT	Electronic Funds Transfer	3/2/98	2/26/98
EIC	Earned Income Credit	1/5/98	12/19/97
EIN	Employer Identification Number	1/29/98	1/29/98
ELO	Extended Lending Option	3/20/98	3/20/98
EMAIL	Electronic Mail	1/29/98	1/29/98
FAFSA	Free Application for Federal Student Aid	1/12/97	1/13/97
FAT	Financial Aid Transcript	1/12/97	1/13/97
FDLP	Federal Direct Loan Program	1/12/97	1/13/97
FFEL	Federal Family Education Loan Program	1/12/97	1/13/97
FI	Fair Issac	3/5/98	¾/98
~~**FS**~~	Federal Direct Loan Program Servicer	4/14/96	REJECTED
FY	Fiscal Year	3/20/98	3/20/98
GA	Guaranty Agency	1/12/97	1/13/97
GAAP	Generally Accepted Accounting Principles	3/17/98	3/17/98
GED	Graduate Equivalent Degree	2/4/98	2/3/98
GI	Government Issue	1/5/98	12/19/97
HHS	Health and Human Services	1/5/98	12/19/97
HS	High School	2/4/98	2/3/98
ICR	Income Contingent Repayment	2/19/98	2/18/98

ACRONYM LIST			
ACRONYM	**PHRASE**	**DATE ADDED**	**DATE APPROVED**
IDS	Institutional Data System (see PEPS)	1/12/97	1/13/97
INS	Immigration and Naturalization Service	11/13/97	11/13/97
IP	Internet Protocol	2/19/98	2/19/98
IPOS	Institutional Participation Oversight Service	3/6/98	3/6/98
IRS	Internal Revenue Service	11/20/97	11/20/97
ISAR	Institutional Student Aid Report	1/12/97	1/13/97
ISIR	Institutional Student Information Record	5/8/98	5/8/98
MDE	Multiple Data Entry	1/12/97	1/13/97
OHA	Office of Hearing and Appeals	3/6/98	3/6/98
PEPS	Postsecodary Education Participants System	1/12/97	1/13/97
PFO	Program and Financial Oversight	4/14/96	5/6/97
PIN	Personal Identification Number	3/6/98	3/6/98
PMS	Payment Management System	1/12/97	1/13/97
POC	Point of Contact	11/13/97	11/13/97
PPA	Program Participation Agreement	3/20/98	3/20/98
PRCN	Program Review Control Number	3/6/98	3/6/98
SAP	Significant Academic Progress	3/17/98	3/17/98
SAR	Student Aid Report	1/12/97	1/13/97
SFA	Student Financial Aid	3/6/98	3/6/98
SS	Selective Service	2/23/98	2/20/98
SSA	Social Security Administration	11/13/97	11/13/97
SSCR	Student Status Confirmation Report	1/12/97	1/13/97
SSIG	State Student Incentive Grant	2/23/98	2/20/98
SSN	Social Security Number	1/12/97	1/13/97
~~**SUBTRANS**~~	Subledger Financial Transaction	4/14/96	REJECTED
TANF	Temporary Aid for Needy Families	1/5/98	12/19/97
TIN	Taxpayer Identification Number	1/12/97	1/13/97
TIV	Title IV	4/14/96	5/6/97
TRO	Tax Refund Offset	2/12/98	2/11/98
UOM	Unit of Measure	1/12/97	1/13/97
URL	Universal Resource Locator	3/6/98	3/6/98
VA	Veterans Administration	12/16/97	12/16/97

ANNEX - C

CLASS WORD TABLE		
CLASS WORD	**ABBREVIATION**	**DESCRIPTION**
AMOUNT	**AMT**	A monetary quantity. Always expressed in whole and fractional portions.
CATEGORY	**CAT**	A classification of data which is not codified and does not require a reference or translation table to become meaningful information
CODE	**CODE**	A differential of a classification of data which requires a reference or translation table to become meaningful information.
COUNT	**CNT**	An integer number indicating a measure in the indicated unit of measure and available for arithmetic use
DATE	**DATE**	A measurement of time from which year, month, and day may be determined.
DESCRIPTION	**DESC**	Any of the forms, versions, or editions in which a written work exists. Data having undefined, free-form, unstructured or unformatted content, including text, alphanumeric and other printable characters.
DIMENSION	**DIM**	A quantitative measure of spatial proportions in up to three dimensions.
IDENTIFIER	**ID**	One non-intelligence bearing attribute whose purpose is to uniquely identify a kernel entity type.
IMAGE	**IMG**	A picture or graphic.
INDICATOR	**IND**	A simple Boolean flag set to "Y" for yes (or true) and "N" for no (or false).
INFORMATION	**INFO**	indicates a group of attributes, known as a data class
NAME	**NAME**	A word or phrase that constitutes a distinctive designation for a person, place, thing, concept, or event.
NUMBER	**NMBR**	A numeric integer used for identification or sequencing and not intended for arithmetic use
PERCENT	**PCT**	A unit-less measurement expressing a part to the whole.
QUANTITY	**QTY**	A real number indicating a measure implied to be in units and available for arithmetic use
RATE	**RATE**	a measurement of change over time expressed in designated units of measure
TIME	**TIME**	An indication of time of day which is capable of indicating hours, minutes and / or seconds, including fractions